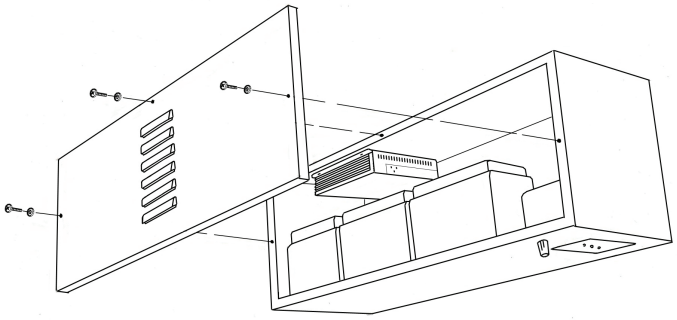

Model CEPS-120
Model CEPS-240
Model CEPS-350
Installation Instructions & User Manual

UL924 LISTED
EMERGENCY LIGHTING
EQUIPMENT
73PK

IMPORTANT SAFEGUARDS:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

When using electrical equipment, basic safety precautions should always be followed, including the following:

1. Do not install outdoors.
2. Do not install near gas or electric heaters.
3. Mount CEPS-___ securely and in locations and at heights where it will not be readily subjected to tampering by unauthorized personnel.
4. Do not use this equipment for other than its intended use.
5. All installation and servicing of this equpiment must be performed by qualified personnel.
6. The use of accessory equipment not specified or recommended by LVS, Inc. may cause unsafe conditions and may void the warranty.
7. Use caution when servicing batteries. Battery acid can cause burns to skin and eyes. If acid is spilled on skin or in the eyes, flush with fresh water and seek medical attention immediately.
8. Make sure all connections are in accordance with NEC and local regulations.
9. Check AC Voltage rating on equipment label. Do not connect to any other voltage.
10. An unswitched AC power source is required (120 VAC or 240VAC or 277VAC depending on model).
11. Do not use this product for other than intended use.
12. To reduce risk of electric shock, disconnect dedicated input breaker and all fuses before servicing.
13. Do not attempt to service sealed components with the exception of standard battery replacements.

SAVE THESE INSTRUCTIONS

LVS, Inc. 2555 Nicholson Street, San Leandro, CA 94577-4216
Phone: 510-352-9600 1-800-982-4587 Fax: 510-352-6707
www.lvscontrols.com

Unit Specifications

- Input 120VAC or 240VAC or 277VAC 50 or 60 Hz
  8 W Power Consumption when batteries charged
- Output 120VAC or 240VAC or 277VAC 50 or 60 Hz
  Pure Sine Wave
  CEPS-120 - 120W (1A at 120V, 0.43A at 277V)
  CEPS-240 - 240W (2A at 120V, 0.86A at 277V)
- CEPS-350 - 350W (2.9A at 120V, 330W/1.2A at 277V)
- 90 minutes run time at full load
- Output fused, GFCI protected (120V models only)
- Automatic Output Voltage Tracking maintains output voltage at full load at 120V ± 3% for a full 90 minutes emergency operation.
- Operates fluorescents, CFL, LED, halogen incandescent loads. Loads can be switched or dimmed during normal operation, full brightness during interruption.
- Distortion: Less than ± 3%
- Test Switch to simulate utility power loss
- Thermostat Controlled Silent Cooling Fan
- Power Factor: Unity using incandescent loads. 0.9 leading to 0.9 lagging depending on load.
- 1.5 seconds transfer time to protect against momentary ON/OFF voltage surges caused by power line hitting wet pavement or other power lines during a storm.
- Operating Temperature: 40°F to 100°F
- Frequency Regulation: ± 3%
- Automatic low voltage battery disconnect
- Efficiency: Over 90% at full load
- Sealed Lead Calcium batteries provide long life and are maintenance free.
  EMI in compliance with FCC Class A Regulation
- Utility & Inverter Power Indicator LED's

Safety & Protection

▼ **Safe, momentary overload:** Up to 700 W, for safe operation when using high inrush loads.

TEMPORARY STORAGE INSTRUCTIONS:

- For temporary storage of CEPS system and batteries prior to installation select a clean, cool, dry location with normal ventilation suitible for human habitation and level floors. DO NOT store system or batteries in a sealed room or container. Ensure that floor is cabable of bearing load.
- Do not store batteries for more than 60 - days without charging. Doing so will cause irreversible damage to battery cells and void battery warranty. Ensure batteries are stored at temperatures within the following range: 40ºF to 100ºF.

◆ 3 Year Warranty ◆
◆ 6 Year Pro-Rata Battery Warranty ◆

LVS Inc., warrants to the original purchaser/user for the published warranty period from the date of shipment that should LVS instruments or equipment prove defective by reason of improper workmanship or material, LVS will repair or replace the same equipment without charge. This warranty does not cover defects or malfunctions arising from improper installation, operation or repair, or neglect, accident or abuse. LVS will honor its warranty provided the equipment has not been physically damaged or improperly installed or connected. To obtain warranty/repair, the defective product should be shipped freight prepaid within the warranty period to the address below. To the extent permitted by applicable law, all warranties extending beyond repair or replacement as described above are disclaimed, including the implied warranties of merchantability and fitness for a particular purpose. Where applicable law prohibits disclaimers or the implied warranties of merchantability and fitness; those warranties are limited to 12 months from date of shipment. LVS provides a 90 day money back guarantee if equipment does not perform in accordance with LVS published specifications. The liability of LVS and its agents under all warranties is limited to repair and replacement as described herein, and under no circumstances shall there be liability for any other kind of loss, damage, or labor, either consequential or for injury to person or property or otherwise.

Batteries are supplied on a pro-rata basis for six years, provided that the product has been properly installed in the correct surroundings.

Panel Location

1. Panel should be installed in a ventilated indoor location and not subjected to temperatures above 100 °F (37.8 °C) nor below 40 °F (4.5 °C) and at an altitude of less than 10,000 feet for optimum performance.

2. When the panel is installed on the wall, the wall must have sufficient strength to support a weight of 100 pounds and a minimum of 4 screws (#10) should be securely fastened in wood or concrete with plastic inserts to secure the panel.

3. Remove 2 or 3 knockouts from the top of the panel.

4. Install utility input conduit and wire from a dedicated circuit breaker, such as provided for a fire alarm or security system. Voltage should be 120VAC 60Hz for 120V models, and 277VAC 60 Hz for 277V models. 240VAC 50Hz for 240V models.

5. Install wires from switch legs if switch function is being used. See diagram on panel door.

5. Install emergency output conduit to emergency loads, ensure that load voltage rating matches inverter voltage.

6. When you receive the panel, it will already have indicating LED's and test switch visible on the bottom of the panel. The panel has a protective cardboard cover during shipment, which should be removed after the panel has been securely mounted.

AC Input/Output Wiring Instructions

The CEPS must be installed by a qualified electrician in accordance with local, state, and NEC codes. AC & DC Voltages are hazerdous and care should be taken to follow all instructions. Prior to wiring AC connections, disconnect AC Input feed at relevant branch circuit breaker(s). Always wear appropriate clothing when handling batteries and equipment, and use insulated tools.

1) Remove fuse from bottom side of panel.
2) Ensure that inverter rocker switch is in middle position "OFF" and that batteries are not connected.
3) Ensure that knockouts on top of panel have been removed and conduits have been installed.
4) Bring AC Input conductors and AC Output Conductors through the appropriate conduits. Per NEC, emergency output circuit should be installed in a dedicated conduit.
5) Connect AC Output conductors to wires 8 (hot) and 10 (neutral)
6) Connect AC Input conductors to wires 1(hot) and 2 (neutral)
7) Connect grounds for AC Input & AC Output to stripped ends of grounding wires provided.

Battery Installation

1. Remove batteries from shipping boxes and check for enclosure and terminal damage.

2. Check to ensure correct number of batteries:

CEPS-120 - 1 battery CEPS-240 - 2 batteries CEPS-350 - 3 batteries

3. Measure DC voltage between + and - terminals of batteries, all readings should be between 11.5V and 14V. If battery voltage is too high or too low, contact LVS at 1-800-982-4587.

3. Leave protective sleeves on battery wires till ready to make final connections. Always make connections one at a time. Always connect black to black. Always connect red to red.

4. Consult diagram on panel cover for proper battery wiring.

5. Ensure that all connections have been made in a workman-like manner, and that panel door can close.

Start Up

1) Set inverter rockerswitch in “REMOTE” position (rocker should be up towards top of panel)
2) Insert 250V 6A fuse into bottom side of panel.
3) Ensure that cabinet is securely fastened to wall and that no wires are loose or disconnected.
4) Ensure proper grounding of all system components and enclosures.
5) Ensure all final connections have been made in a workman-like manner, so that low voltage and line voltage connections do not share the same area.

★ If CEPS output does not match specifications, or is stuck in emergency mode please consult the following troubleshooting guide: ★

Test #1: Remove fuse mounted on bottom of panel, and check continuity. Replace with 6A 250V fuse if necessary. Re-insert all fuses.

Test #2: Observe indicator lights on blue inverter mounted in left of panel. If LED’s are flashing or are RED in color, turn rocker switch to OFF (middle position) then back to REMOTE (towards top of panel) All LED’s should become green or yellow, if not, consult LVS, Inc. Check that GFCI is not tripped.

Test #3: Allow 72 hours for batteries to charge and run battery voltage test described on page 3. If voltage is still irregular, consult LVS, Inc. regarding battery wiring and replacement.

Test #4: Check all wire nuts for good electrical connections and ensure that no bare conductors are exposed. Also, ensure that all plug-in connectors are firmly inserted and locked. If replacing loose connections, first disconnect all power, and remove fuse from bottom of panel.